



TRUE NORTH EQUIPMENT
 5101 Gateway Drive
 Grand Forks, ND 58203-1109
 www.truenorthequipment.com

Grafton, ND (701) 352-1401
 Grand Forks, ND (701) 746-4436
 Kennedy, MN (218) 674-4111
 Northwood, ND (701) 587-5050



JOHN DEERE

Invoice To Account No: 54767

Deliver To:

SERVICE INVOICE

KEVIN ADAMS 1726 2ND AVE NE REYNOLDS ND 58275 Bus Phone: 701-847-2379 Prv Phone:	KEVIN ADAMS 1726 2ND AVE NE REYNOLDS ND 58275 Bus Phone: 701-847-2379 Prv Phone:	Invoice Number: 509007 Invoice Date: 9/22/2016 Location: 2 Work Order Number: 112749 Payment Type: Credit Card Page: 1 of 2
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Make/Model:	Meter:	Serial Number:	Eq ID:	Fleet No:
JOHN DEERE 9400	7489	RW9400H010338	RW9400H010338	

9400G468116 Fleet

COMPLAINT:

01 ELECTRONIC UNIT INJECTORS, R&R OR REPLACE. REPLACE NUMBER 4 INJECTOR AND CUP.

KEVIN 218-779-5516

CORRECTION:

Customer had called and said that he had a #4 injector that needed to be replaced. Grabbed the injector that was sitting in my parts tote and headed out to customers farm. I started by draining the coolant, the coolant looked good coming out, but at the end straight fuel came out. That is telling me that fuel is leaking into the coolant system through the injectors sleeves. Told the customer what I had found. I recommended that we change all six injector sleeves to make it right, he agreed. I looked up in parts the sleeves that go with the new injector that I had. Got them coming on the parts van, customers daughter went and picked them up.

Removed the rocker arm cover and set aside. Turned the engine over to TDC #1. Removed the rocker arm assembly and set on a bench the customer had gotten ready for me. Removed and numbered each injector. Tapped and pulled out injector sleeves 6,5 and 4. I broke the tap in sleeve #3 and the broken tip fell on top of the piston. I had another tap and carefully finished tapping the hole. Pulled #3 sleeve out. Broke another tap in sleeve #2 and while I was trying to remove the broke tip, that one fell on top of the piston as well. Had one tap left and finished tapping #2, pulled it out. Tapped #1 and it went well, pulled it out. Used a flexible magnet and got all the tapped filings off the top of the pistons. I got lucky on #3 and snagged the broken tap with the magnet. Tried the same thing on #2, but couldn't locate the broken tap. Customer had a bore scope that I borrowed to try and find the tap. I looked all over on that piston and couldn't find it. I used compressed air and blew in there hoping it would move, still couldn't find it. I used a different air chuck and blew air in there. Used the bore scope and finally saw it on the lip of the piston. Left the bore scope in and used my magnet and got it out.

Used a little brass brush and cleaned the injector bore out. Used a special tool and installed all the injector sleeves. Went to install the injectors and they wouldn't seat correctly, the o-ring was still showing. I looked at the part # on the original injector and the part # on the new one, they were different, we had the wrong sleeves installed and the wrong #4 injector. Made a phone call to Luke and explained to him what had happened. We had an injector for a 9200 and I was working on a 9400. I got the correct parts ordered. Went back out the next day with the right parts. Re-tapped all the sleeves and pulled them out. Used a magnet and got the filings off the piston. Installed the correct sleeves with the special tool. Installed the injectors and they fit good. Assembled the rocker arm assembly and adjusted the valve clearance and injector preload. Put the EUI harness back on. Installed the rocker arm cover. Put some coolant flush in and filled the system with water. Started the tractor and let it run for about a hour. Drained the flush. Filled the system back up with straight water and let it run for another hour. Drained the water and filled the system back up with new Cool Gard II. Started the tractor and checked for any leaks. Cleaned up and put all my tools away. Drove back to the dealership.

T375

Part Number	Description	Quantity	List Price	Net Price	Extended Price	Taxed Ind
PMCC2638	SHOP CLEANER SUPPLY ITEM	1.00	36.36	36.36	\$36.36	Y
R133651	PACKING	7.00	2.57	2.56	\$17.92	N

Injectors \$6557.22
Core -1200.00
5357.22
+ 3000.00 Labor
\$8357.22



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Make/Model:	Meter:	Serial Number:	Eq ID:	Fleet No:
JOHN DEERE 9400	7489	RW9400H010338	RW9400H010338	

9400G468116 Fleet

		Quantity	List Price	Net Price	Extended Price	Taxed Ind
R136507	SCREW	10.00	4.64	4.64	\$46.40	N
R501390	SCREW	5.00	2.52	2.52	\$12.60	N
R502703	PACKING	7.00	1.94	1.93	\$13.51	N
R505677	GASKET	1.00	50.73	50.11	\$50.11	N
RE528634	SLEEVE	5.00	43.33	43.33	\$216.65	N
SE501954	INJECTION NO	1.00	1,103.38	1,103.38	\$1,103.38	N
SE501954-CR	CORE for:Elect Unit Injector Reman	-1.00	200.00	200.00	(\$200.00)	N
TY26576	COOL-GARD 2.5 GAL MIX	6.00	32.00	32.00	\$192.00	Y

Miscellaneous	Description	Quantity	List Price	Net Price	Extended Price	Taxed Ind
3750	FREIGHT	2.00	0.00	0.00	\$0.00	N

Labor: \$3,000.00 Parts: \$1,488.93 OL&M: \$0.00 Misc: \$0.00 Sub-Total: \$4,488.93

20 hrs

INVOICE CONTAINS \$0.76 DISCOUNT

Miscellaneous Charges:
 Service Accessories

\$120.00

Credit Card Information

Customer PO No:		Type: Credit Card
Tax Exempt No: CONV		Card No: V1177
Advisor: LUKE AIPPERSPACH		Amount: \$4,608.93

Labor: \$3,000.00
Parts: \$1,488.93
OL&M: \$0.00
Misc: \$120.00
Sales Tax: \$0.00

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Grand Total: \$4,608.93



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Make/Model:	Meter:	Serial Number:	Eq ID:	Fleet No:
JOHN DEERE 9400	7500	RW9400H010338	RW9400H010338	

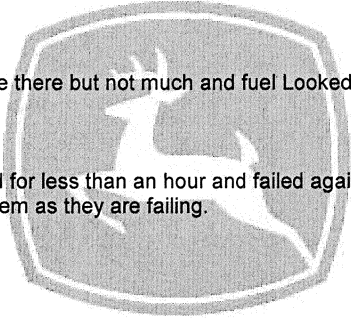
9400G468116 Retail

COMPLAINT:

01 ELECTRONIC UNIT INJECTOR, R&R OR REPLACE. ENGINE HAS LOUD NOISE IN VALVE TRAIN.

CORRECTION:

Drove to customers yard.
 Ran tractor and found it missing and sounded rough in the rocker assemblies.
 Removed hose and wiring, removed rocker cover.
 Found #2 injector stuck down.
 Removed rocker assemblies and set aside.
 Removed # 2 injector.
 Cleaned fuel from cylinder hole, cleaned injector bore.
 Installed new injector.
 Installed rocker assemblies.
 Checked and adjusted all valves and injectors.
 Drained water from filter and tanks which there was a little there but not much and fuel looked a little cloudy but not bad.
 Bleed fuel system and got tractor running.
 Found no issues and nothing leaking.
 Cleaned up, drove back to shop.
 Customer put tractor back in the field the tractor ran good for less than an hour and failed again.
 Ordered 4 more injectors and decided to do the rest of them as they are failing.
 Drove back to customers yard.
 Removed hoses and rocker cover.
 Found #5, and 6 injectors both stuck down.
 Removed rocker assemblies.
 Removed #1,3,5, and 6 injectors.
 Cleaned injector bores and cylinders.
 Installed injectors.
 Installed rocker assemblies.
 Set injector pre-load.
 Installed cover.
 Drained fuel from head.
 Drained fuel lines and customer drained all fuel from tanks.
 Removed and replaced fuel filters.
 Filled fuel tanks with new fuel.
 Bled fuel system, and got tractor running.
 Tested and found no issues.
 Cleaned up, wrote story, drove back to shop.



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T455

Part Number Description Quantity List Price Net Price Extended Price Taxed Ind



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Make/Model:	Meter:	Serial Number:	Eq ID:	Fleet No:
JOHN DEERE 9400	7500	RW9400H010338	RW9400H010338	

9400G468116 Retail								
SE501954	INJECTION NO	5.00	1,103.38	900.00	\$4,500.00			N
SE501954-CR	CORE for:Elect Unit Injector Reman	-5.00	200.00	200.00	(\$1,000.00)			N
<u>Miscellaneous</u>	<u>Description</u>	<u>Quantity</u>	<u>List Price</u>	<u>Net Price</u>	<u>Extended Price</u>	<u>Taxed Ind</u>		
3750	FREIGHT	1.00	48.55	48.55	\$48.55	N		

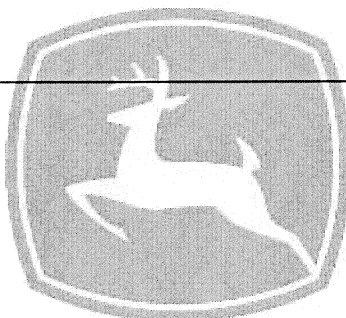
Labor: \$900.00 Parts: \$3,500.00 OL&M: \$0.00 Misc: \$48.55 Sub-Total: \$4,448.55

INVOICE CONTAINS \$1,016.90 DISCOUNT

Miscellaneous Charges:

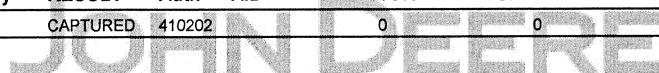
Service Accessories \$36.00

Customer PO No:	
Tax Exempt No:	CONV
Advisor:	LUKE AIPPERSPACH



Labor: \$900.00
Parts: \$3,500.00
OL&M: \$0.00
Misc: \$84.55
Sales Tax: \$0.00
Grand Total: \$4,484.55

Credit Card Information	Merchant No:	Terminal ID: 13	Client ID: 65000000302894									
Appl Label	Masked PAN	Exp	Card Entry	RESULT	Auth	AID	TVR	TSI	ARC	IAD	CVM	Total
	*****1177	0/0		CAPTURED	410202		0			0		\$4484.55



Received by: Date:



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JOHN DEERE

6

Invoice To Account No: 42

Deliver To:

SERVICE INVOICE

WARRANTY DEBTOR FORKS	KEVIN ADAMS 1726 2ND AVE NE REYNOLDS ND 58275	Invoice Number: 518817
Bus Phone:	Bus Phone: 701-847-2379	Invoice Date: 12/2/2016
Prv Phone:	Prv Phone:	Location: 2
		Work Order Number: 115208
		Payment Type: Account
		Page: 1 of 2

Make/Model:	Meter:	Serial Number:	Eq ID:	Fleet No:
JOHN DEERE 9400	7500	RW9400H010338	RW9400H010338	

Gen-Engine Warranty

COMPLAINT:

NUMBER 4 AND NUMBER 5 INJECTORS MISSING

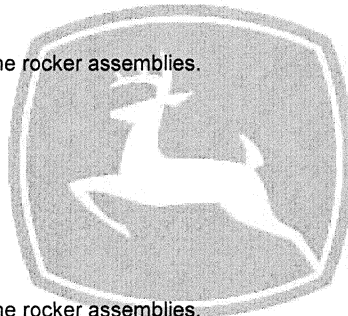
PARTS WARRANTY #4 INJECTOR INSTALL ON WORK ORDER 112749, 8/26/16, 7489 HOURS. # 5 INJECTOR INSTALL ON WORK ORDER 115126, 11/15/16, 7500 HOURS.

CAUSE:

SE501954 injectors failed

CORRECTION:

Drove to customers yard.
 Ran tractor and found it missing and sounded rough in the rocker assemblies.
 Removed hose and wiring, removed rocker cover.
 Found #4 injector stuck down.
 Removed rocker assemblies and set aside.
 Removed # 4 injector.
 Cleaned fuel from cylinder hole, cleaned injector bore.
 Installed new injector.
 Installed rocker assemblies.
 Cleaned up, wrote story, drove back to shop.
 Drove to customers yard.
 Ran tractor and found it missing and sounded rough in the rocker assemblies.
 Removed hose and wiring, removed rocker cover.
 Found #5 injector stuck down.
 Removed rocker assemblies and set aside.
 Removed # 5 injector.
 Cleaned fuel from cylinder hole, cleaned injector bore.
 Installed new injector.
 Installed rocker assemblies.



JOHN DEERE

T455

Part Number	Description	Quantity	List Price	Net Price	Extended Price	Taxed Ind
SE501954	INJECTION NO	2.00	924.07	924.07	\$1,848.14	N
SE501954-CR	CORE for:Elect Unit Injector Reman	-2.00	240.00	240.00	(\$480.00)	N
Miscellaneous	Description	Quantity	List Price	Net Price	Extended Price	Taxed Ind



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SERVICE INVOICE

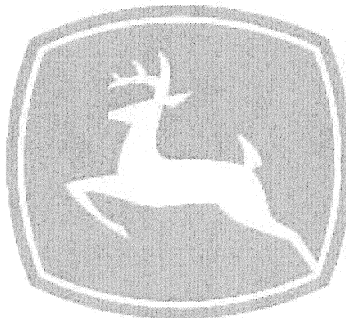
WARRANTY DEBTOR FORKS	KEVIN ADAMS 1726 2ND AVE NE REYNOLDS ND 58275	Invoice Number: 518817 Invoice Date: 12/2/2016 Location: 2 Work Order Number: 115208 Payment Type: Account Page: 2 of 2
Bus Phone:	Bus Phone: 701-847-2379	
Prv Phone:	Prv Phone:	

Make/Model:	Meter:	Serial Number:	Eq ID:	Fleet No:
JOHN DEERE 9400	7500	RW9400H010338	RW9400H010338	

Gen-Engine Warranty						
3750	FREIGHT	1.00	21.09	21.09	\$21.09	N
Labor: \$1,975.50	Parts: \$1,368.14	OL&M: \$0.00	Misc: \$21.09	Sub-Total: \$3,364.73		

Customer PO No:
 Tax Exempt No: CONV
 Advisor: LUKE AIPPERSPACH

*** DOCUMENT COPY ***



Labor: \$1,975.50
Parts: \$1,368.14
OL&M: \$0.00
Misc: \$21.09
Sales Tax: \$0.00
Grand Total: \$3,364.73

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